

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. The original filing indicated that the square-bracketed cross-referencing numbers are not to be regarded as part of the claims, **thus such square-bracketed cross-referencing material has been removed** in the below claims listing:

CLAIMS LISTING (all of pending claims 1-20)

Claim 1 (Original): A method of forming sidewall dielectric on an ONO-type memory cell stack where at least one sidewall of the ONO-type memory cell stack includes a plurality of exposed material layers respectively composed of different materials, the method comprising:

- (a) subjecting the at least one sidewall to a dry ISSG process (In-Situ Steam Generation) where the dry ISSG process comprises:
 - (a.1) flowing molecular oxygen (O₂) towards the stack; and
 - (a.2) flowing molecular hydrogen (H₂) towards the stack, where the volumetric flow ratio of the H₂ to the O₂ is less than about 0.2.

Claim 2 (Original): The sidewall dielectric forming method of Claim 1 wherein:

- (a.2a) said volumetric flow ratio of H₂/O₂ is less than about 0.1.

Claim 3 (Original): The sidewall dielectric forming method of Claim 1 wherein:

- (a.2a) said volumetric flow ratio of H₂/O₂ is equal to, or less than, about 0.02.

Claim 4 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (b) rapidly heating the flowing oxygen (O₂) and flowing hydrogen (H₂) to a temperature in the range of about 850°C to about 1050°C as they flow towards said at least one sidewall.

Claim 5 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (b) continuing the subjecting of the at least one sidewall to the dry ISSG process for a duration selected from the range of about 20 seconds to about 300 seconds.

Claim 6 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (a.1a) setting or varying the O₂ flow rate over the range of about 3slm to about 10slm (ten standard liters per minute).

Claim 7 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (a.2a) setting or varying the H₂ flow rate over the range of about 0.1slm to about 1slm.

Claim 8 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (b) establishing a chamber pressure for the flowing oxygen (O₂) and flowing hydrogen (H₂) in the range of about 5 Torr to about 50 Torr.

Claim 9 (Original): The sidewall dielectric forming method of Claim 1 and further wherein:

- (b) said plurality of exposed material layers of the ONO-type memory cell stack includes:
 - (b.1) a first silicon nitride layer;
 - (b.2) a first silicon layer; and
 - (b.3) a first silicon oxide layer.

Claim 10 (Original): The sidewall dielectric forming method of Claim 9 and further wherein said plurality of exposed material layers of the ONO-type memory cell stack includes:

- (b.4) a second silicon layer;
- (b.5) a second silicon oxide layer;
- (b.6) a tunnel dielectric layer;
- (b.7) wherein the first silicon nitride layer is interposed between the first and second silicon oxide layers; and
- (b.8) wherein the combination of the first and second silicon oxide layers and the first silicon nitride layer is interposed between the first and second silicon layers.

Claim 11 (Original): The sidewall dielectric forming method of Claim 10 and further wherein said plurality of exposed material layers of the ONO-type memory cell stack includes:

- (b.9) a second silicon nitride layer; disposed above the first silicon layer.

Claim 12 (Original): The sidewall dielectric forming method of Claim 1 and further wherein:

a height variation ratio, $R_H = H_{\text{outer}}/H_{\text{inner}}$, determined for the ONO-type memory cell stack after formation of the sidewall dielectric by the dry ISSG process, is about 1.20 or less, where H_{inner} represents a stack height at a lateral position in the stack that is spaced away from the stack edges and where H_{outer} represents a stack height at a lateral position near or at one of the stack edges.

Claim 13 (Original): The sidewall dielectric forming method of Claim 1 and further wherein lateral sidewall breakdown voltages are substantially uniform along the height of the ONO-type memory cell stack after formation of the sidewall dielectric by the dry ISSG process.

Claim 14 (Original): The sidewall dielectric forming method of Claim 1 and further wherein a larger erase speed is obtained in a memory cell having said ONO-type memory cell stack after formation of the sidewall dielectric by the dry ISSG process, where the larger erase speed is larger than a corresponding erase speed obtained in a corresponding memory cell having an ONO-type memory cell stack with sidewall dielectric formed by an HTO process.

Claim 15 (Original): The sidewall dielectric forming method of Claim 1 and further comprising:

- (b) after said dry ISSG process, forming further and supplemental sidewall dielectric by a non-ISSG sidewall dielectric forming process.

Claim 16 (Withdrawn): A memory cell having an ONO-type memory cell stack where at least one sidewall of the ONO-type memory cell stack includes a plurality of material layers respectively composed of different materials, the memory cell further comprising:

- (a) a sidewall-coating dielectric whose fabrication was at least initially started by subjecting at least one otherwise exposed and multi-layered sidewall of the ONO-type memory cell stack to a dry ISSG process (In-Situ Steam Generation).

Claim 17 (Withdrawn): The memory cell of Claim 16 wherein the dry ISSG process used to fabricate the memory cell comprises:

- (a.1) generating a sufficient amount of atomic oxygen near said at least one otherwise exposed sidewall of the ONO-type memory cell stack so as to substantially oxidize exposed sidewall regions of those of the different materials of the ONO-type memory cell stack that are not substantially oxidized prior to said subjecting of the at least one otherwise exposed sidewall to said dry ISSG process.

Claim 18 (Withdrawn): The memory cell of Claim 16 wherein the dry ISSG process used to fabricate the memory cell comprises:

(a.1) flowing molecular oxygen (O_2) towards the stack; and

(a.2) flowing molecular hydrogen (H_2) towards the stack, where the volumetric flow ratio of the H_2 to the O_2 is less than about 0.2.

Claim 19 (Withdrawn): A memory cell having an ONO-type memory cell stack isolated by sidewall dielectric where at least one dielectric-isolated sidewall of the ONO-type memory cell stack includes a plurality of material layers respectively composed of different materials, the memory cell being further characterized by :

(a) a height variation ratio, $R_H = H_{outer}/H_{inner}$, determined for the ONO-type memory cell stack after formation of the sidewall dielectric, where the height variation ratio, R_H is about 1.20 or less, where H_{inner} represents a stack height at a lateral position in the stack that is spaced away from the stack edges and where H_{outer} represents a stack height at a lateral position near or at one of the stack edges.

Claim 20 (Withdrawn): A memory cell having an ONO-type memory cell stack isolated by sidewall dielectric where at least one dielectric-isolated sidewall of the ONO-type memory cell stack includes a plurality of material layers respectively composed of different materials, the memory cell being further characterized by :

(a) lateral sidewall breakdown voltages that are substantially uniform along the height of the ONO-type memory cell stack.
